20V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	20A
V_{DSS}	20V
R_{DSON}-typ(@V_{GS}=4.5V)	、 8.0mΩ**(Typ:6.2 mΩ)**
R_{DSON}-typ(@V_{GS}=2.5V)	、 11mΩ**(Typ:8.2 mΩ)**

Description

The YFW20N02DF uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a battery protection or in other Switching application.

Application

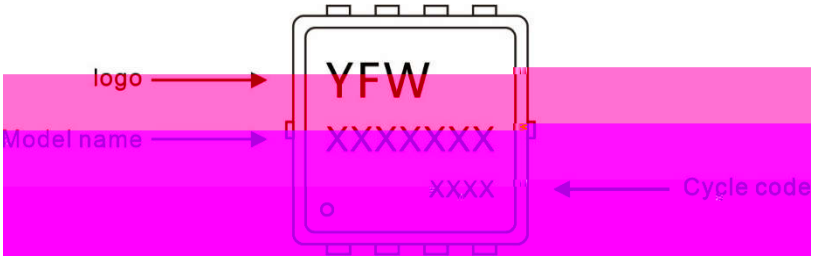
- Battery protection
- Load switch
- Un

Electrical Characteristics (T_J=25 , unless otherwise noted)

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250uA	BV_{DSS}	20	22	-	V
Drain-Source Leakage Current	V_{DS}=20V , V_{GS}=0V	I_{DSS}	-	-	1.0	μA
Gate-Source Leakage Current	V_{DS}=0V,V_{GS}=±12V	I_{GSS}	-	-	±100	nA
Gate -Threshold Voltage	V_{DS}=V_{GS}, I_D=250uA	$V_{GS(th)}$	0.5	0.75	1.0	V
Drain-source on-state resistance[3]	V_{GS}=4.5V, I_D=25A	$R_{DS(ON)}$	-	6.2	8.0	mΩ
	V_{GS}=2.5V, I_D=10A		-	8.2	11	
Input Capacitance	V_{DS}=10V V_{GS}=0V f=1MHz	C_{iss}	-	1458	-	pF
Output Capacitance		C_{oss}	-	238	-	
Reverse Transfer Capacitance		C_{rss}	-	212	-	
Total Gate Charge	V_{DS}=10V I_D=25A V_{GS}=4.5V	Q_g	-	19	-	nC
Gate-Source Charge		Q_{gs}	-	3	-	
Gate Drain("Miller") Charge		Q_{gd}	-	6.4	-	
Turn-On Delay Time	V_{DS}=10V, I_D=10A, R_{GEN}=3Ω, V_{GS}=4.5V	$t_{d(on)}$	-	10	-	ns
Rise Time		T_r	-	21	-	
Turn-Off Delay Time		$t_{d(OFF)}$	-	39	-	
Fall Time		t_f	-	19	-	
Maximum Continuous Drain to Source Diode Forward Current		I_S	-	-	50	A
Maximum Pulsed Drain to Source Diode Forward Current		I_{SM}	-	-	200	A
Diode Forward Voltage	V_{GS} = 0V, I_S = 30A	V_{SD}	-	-	1.2	V
Body Diode Reverse Recovery Time	I_F = 20A, di/dt = 100A/us	trr		25		ns
Body Diode Reverse Recovery Charge		Qrr		20		nC

Typical CharacteristicW

Marking Diagram

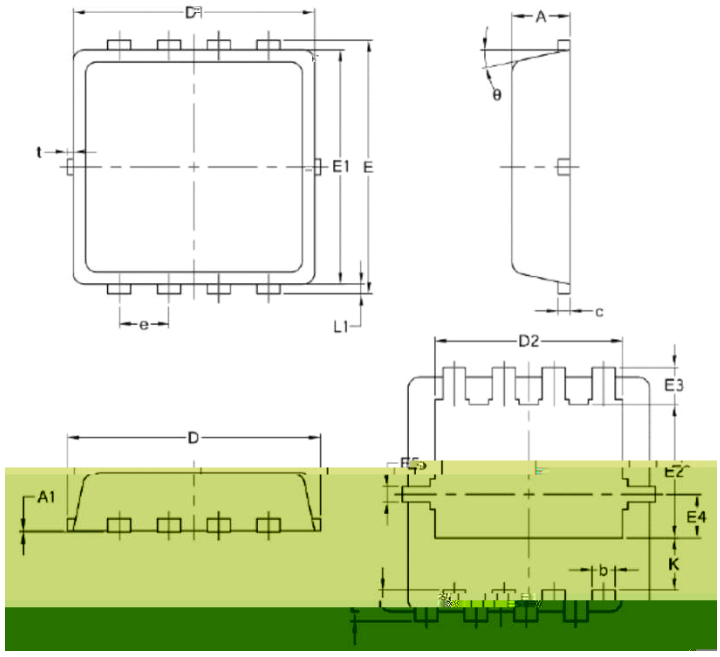


Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFW20N02DF	PDFN3*3-8L	0.0023oz(0.065g)	5000pcs/reel	10000pcs/box 50000pcs/Carton

Package Dimensions

PDFN3*3-8L



Dim	Millimeter		mil	
	Min.	Max.	Min.	Max.
A	0.70	0.85	0.0276	0.0335
A1	-	0.05	-	0.002
b	0.20	0.40	0.008	0.016
c	0.10	0.25	0.004	0.010
D	3.15	3.45	0.124	0.136
D1	3.00	3.25	0.118	0.128
D2	2.29	2.65	0.09	0.104
E	3.15	3.45	0.124	0.136
E1	2.90	3.20	0.114	0.126
E2	1.54	1.94	0.061	0.076
E3	0.28	0.65	0.011	0.026
E4	0.37	0.77	0.015	0.030
E5	0.10	0.30	0.004	0.012
e	0.60	0.70	0.024	0.028
K	0.59	0.89	0.023	0.035
L	0.30	0.50	0.012	0.020
L1	0.06	0.20	0.002	0.008
t	-	0.13	-	0.005
Φ	10	14	10	14

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